Title (en)

POWER SAVING METHODS AND APPARATUS TO SELECTIVELY ENABLE COMPARATORS IN A CAM RENAMING REGISTER FILE BASED ON KNOWN PROCESSOR STATE

Title (de)

STROMSPARVERFAHREN UND VORRICHTUNG ZUM SELEKTIVEN FREIGEBEN VON KOMPARATOREN IN EINEM CAM-UMBENENNUNGS-REGISTERFILE AUF DER BASIS EINES BEKANNTEN PROZESSORZUSTANDS

Title (fr)

PROCEDES ET APPAREILS DE GESTION DE LA CONSOMMATION D'ENERGIE PERMETTANT D'ACTIVER DE MANIERE SELECTIVE DES COMPARATEURS DANS UN FICHIER DE REGISTRE DE RENOMMAGE CAM EN FONCTION DE L'ETAT CONNU DU PROCESSEUR

Publication

EP 1861765 B1 20190522 (EN)

Application

EP 06736860 A 20060303

Priority

- US 2006007608 W 20060303
- US 7284905 A 20050303

Abstract (en)

[origin: WO2006094197A2] A renaming register file complex for saving power is described. A mapping unit transforms an instruction register number (IRN) to a logical register number (LRN). The renaming register file maps an LRN to a physical register number (PRN), there being a greater number of physical registers than addressable by direct use of the IRN. The renaming register file uses a content addressable memory (CAM) to provide the mapping function. The renaming register file CAM further uses current processor state information to selectively enable tag comparators to minimize power in accessing registers. When a tag comparator is not enabled it remains in a low power state. A processor using a renaming register file with low power features is also described.

IPC 8 full level

G06F 1/32 (2019.01)

CPC (source: EP KR US)

G06F 1/3203 (2013.01 - EP KR US); **G06F 1/3275** (2013.01 - EP KR US); **G06F 9/30058** (2013.01 - EP KR US); **G06F 9/384** (2013.01 - EP KR US); Y02D 10/00 (2017.12 - EP KR US)

Citation (examination)

WO 03107202 A1 20031224 - NETLOGIC MICROSYSTEMS INC [US], et al

Designated contracting state (EPC)

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WO 2006094197 A2 20060908; **WO 2006094197 A3 20070104**; CA 2599623 A1 20060908; CA 2599623 C 20110906; CN 101164035 A 20080416; CN 101164035 B 20140416; EP 1861765 A2 20071205; EP 1861765 B1 20190522; IL 185591 A0 20080106; JP 2008533569 A 20080821; JP 2012119006 A 20120621; JP 5680574 B2 20150304; KR 100977687 B1 20100824; KR 101200737 B1 20121113; KR 20070116059 A 20071206; KR 20100038239 A 20100413; RU 2007136486 A 20090410; RU 2389059 C2 20100510; TW 200707179 A 20070216; TW I390393 B 20130321; US 2006206688 A1 20060914; US 7263577 B2 20070828

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